

FORM PTO-1390 (REV 12-29-99)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER 010310-00272-4	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>09/623283</b>	
INTERNATIONAL APPLICATION NO. PCT/US99/04752		INTERNATIONAL FILING DATE 03 March 1999		PRIORITY DATE CLAIMED 04 March 1998	
TITLE OF INVENTION IMPROVEMENTS IN HARD-SIDED LUGGAGE					
APPLICANT(S) FOR DO/EO/US Paolo M.B. Tiramani; John A. Bozak; Soohyun Ham; and Chester Fudge					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</li> <li>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol>					
<b>Items 11. to 16. below concern document(s) or information included:</b>					
<ol style="list-style-type: none"> <li>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</li> <li>14. <input type="checkbox"/> A substitute specification.</li> <li>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>16. <input type="checkbox"/> Other items or information:</li> </ol>					



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<b>STATEMENT CLAIMING SMALL ENTITY STATUS</b>		Docket Number (Optional) 010310-00272-4
<b>(37 CFR 1.9(f) &amp; 1.27(c))--SMALL BUSINESS CONCERN</b>		
Applicant, Patentee, or Identifier: <u>PAOLO M.B. TIRAMANI, JOHN A. BOZAK, SOOHYUN HAM and CHESTER FUDGE</u> Application or Patent No.: <u>PCT/US99/04752</u> Filed or Issued: _____ Title: <u>Improvements in Hard-Sided Luggage</u>		
I hereby state that I am <input type="checkbox"/> the owner of the small business concern identified below; <input checked="" type="checkbox"/> an official of the small business concern empowered to act on behalf of the concern identified below: NAME OF SMALL BUSINESS CONCERN <u>500 GROUP, INC.</u> ADDRESS OF SMALL BUSINESS CONCERN <u>Harbor Square, 700 Canal Street, Stamford, CT 06902</u>		
I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR Part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office. Questions related to size standards for a small business concern may be directed to: Small Business Administration, Size Standards Staff, 409 Third Street, SW, Washington, DC 20416.		
I hereby state that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in: <input type="checkbox"/> the specification filed herewith with title as listed above, <input checked="" type="checkbox"/> the application identified above, <input type="checkbox"/> the patent identified above.		
If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).		
Each person, concern, or organization having any rights in the invention is listed below: <input checked="" type="checkbox"/> no such person, concern, or organization exists. <input checked="" type="checkbox"/> each such person, concern, or organization is listed below: <u>AIRWAY INDUSTRIES, INC. (Small Business Concern)</u> Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)		
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))		
NAME OF PERSON SIGNING <u>PAOLO M.B. TIRAMANI</u> TITLE OF PERSON IF OTHER THAN OWNER <u>President</u> ADDRESS OF PERSON SIGNING <u>26 Dairy Road, Greenwich, CT 06830</u> SIGNATURE <u>[Signature]</u> DATE <u>8/29/00</u>		

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**STATEMENT CLAIMING SMALL ENTITY STATUS**  
**(37 CFR 1.9(f) & 1.27(c))—SMALL BUSINESS CONCERN**

Docket Number (Optional)  
 010310-00272-4

Applicant, Patentee, or Identifier: PAOLO M.B. TIRAMANI, JOHN A. BOZAK, SOOHYUN HAM  
and CHESTER FUDGE  
 Application or Patent No.: PCT/US99/04752  
 Filed or Issued: \_\_\_\_\_  
 Title: Improvements in Hard-Sided Luggage

I hereby state that I am  
☐ the owner of the small business concern identified below;  
☒ an official of the small business concern empowered to act on behalf of the concern identified below;

NAME OF SMALL BUSINESS CONCERN AIRWAY INDUSTRIES, INC.

ADDRESS OF SMALL BUSINESS CONCERN Airway Park, Ellwood City, PA 16117

I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR Part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office. Questions related to size standards for a small business concern may be directed to: Small Business Administration, Size Standards Staff, 409 Third Street, SW, Washington, DC 20416.

I hereby state that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

- ☐ the specification filed herewith with title as listed above,  
☒ the application identified above,  
☐ the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

- Each person, concern, or organization having any rights in the invention is listed below:  
☐ no such person, concern, or organization exists.  
☒ each such person, concern, or organization is listed below.

500 GROUP, INC. (Small Business Concern)

Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

NAME OF PERSON SIGNING Gary Cerrone

TITLE OF PERSON IF OTHER THAN OWNER Vice President and General Manager

ADDRESS OF PERSON SIGNING Airway Park, Ellwood City, PA 16117

SIGNATURE \_\_\_\_\_

DATE 8/30/2000

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102 Rec'd PCT/FTO 31 AUG 2000

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## ***IMPROVEMENTS IN HARD-SIDED LUGGAGE***

### **BACKGROUND OF THE INVENTION**

The invention concerns improvements in hard-sided luggage.

"Hard-sided luggage" means luggage having an all plastic shell exterior. Typically, hard-sided luggage is made by vacuum forming sheet stock (*typically made of ABS plastic*) over a desired shape. Another common method of making hard-sided luggage is to use an injection molded process. Both known processes have limitations, the most glaring of which is that a clam-shell type design (*either 50/50 or 60/40 split*) must be used.

The clam-shell 50/50 or 60/40 case has specific functional limitations. One such limitation is strength. When these cases receive a sharp blow, the forces are typically transferred to the general area where the case splits to open, thus causing inadvertent opening of the case. Also, when packing, the top must be filled to use all of the interior space. Practically, this becomes cumbersome as the filled cover must then be lifted and folded shut with its often heavy contents. Although mechanical straps can be used to retain the load, typically the angle, reach and loaded weight make this a cumbersome arrangement. Finally, the clam-shell 50/50 or 60/40 case have a less aesthetically pleasing appearance.

Current "soft-sided" or "gussetted" luggage has the advantage of providing a fabric cover top or an 85/15 gusset, when the top or lid is approximately 15% of the depth of the total container. This type of split is becoming more and more desired by consumers, however, until the invention disclosed herein was not available in hard-sided cases.

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What is needed is a hard-sided case which is made by a different process that can produce such a hard-sided case that will overcome the disadvantages of current hard-sided cases.

5

### **SUMMARY OF THE INVENTION**

The invention has met or exceeded the above-mentioned needs, as well as others. The invention involves using a blow molding process to produce a base and a lid for a hard-sided luggage article. The invention  
10 further provides a unique lid structure having a double wall and a base including a Z-beam perimeter. A co-extrusion is provided on the Z-beam, part of the co-extrusion providing a color break when the lid is closed on the base. The other portion of the co-extrusion  
15 provides a clip to the Z-beam and ultimately provides the surface for the interlock between the lid and base.

The blow molding process makes it possible to produce a hard-sided luggage article with a trap-door lid. In this way, the parting line between the lid and the base  
20 does not extend around the entire sidewall of the case, thus providing a portion of the sidewall which can rest on the floor without the possibility of allowing leakage from a puddle, or the like, to infiltrate into the interior of the case.

25

### **BRIEF DESCRIPTION OF THE DRAWINGS**

A full understanding of the invention can be gained from the following detailed description of the invention when read in conjunction with the accompanying drawings in which:

30

Figure 1 is a perspective view of the hard-sided luggage article of the invention.

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Figure 2 is a right side elevational view of the luggage article shown in Figure 1.

Figure 3 is a left side elevational view of the luggage article shown in Figure 1.

5        Figure 4 is a top plan view of the luggage article shown in Figure 1.

Figure 5 is a bottom plan view of the luggage article shown in Figure 1.

10       Figure 6 is a front elevational view of the luggage article shown in Figure 1.

Figure 7 is a back elevational view of the luggage article shown in Figure 1.

Figure 8 is a perspective view of the luggage article of Figure 1 showing the lid being opened.

15       Figure 9 is a cross-sectional view of the lid of the invention.

Figure 10 is a cross-sectional view showing mating of the lid and base and also showing the Z-beam and co-extrusion.

20       **DETAILED DESCRIPTION**

Referring now to Figures 1-8, the luggage article 20 of the invention will be described. The luggage article 20 is preferably made by (*but not limited to*) a blow molding process wherein an extruded hot plastic (*typically high density polyethylene (HDPE)*) is blown into  
25       a cavity mold to create the luggage article 20. This process enables the shapes and designs of the luggage article 20 of the invention to be produced, as opposed to injection molding or vacuum forming which have the  
30       limitations discussed above. As can be seen in the figures, blow molding can produce a luggage article 20 having generously curved sides, such sides acting as bumpers to deflect and distribute forces and the impact load.

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Referring back to Figures 1-8, it can be seen that the luggage article 20 is formed with an 85/15 split, having a shallow lid. This is a unique and novel geometry with relation to a hard-sided luggage article which overcomes the above-mentioned disadvantages of typical "clam-shell" prior art hard-sided luggage pieces. As can best be seen in Figure 8, a generous storage compartment 22 is provided within which to place the contents (*not shown*) desired to be packed. The lid 24 is hingedly secured to the base 26 by means of a hinge 28, creating a "trap-door" like arrangement which maximizes the storage compartment 22 volume while providing other benefits, as will be discussed below.

The lid 24 can be secured to the base 26, when the luggage article 20 is closed, by providing a series of latches or locks, such as latches 30, 32, 34. One or more of these latches can contain a tumbler combination lock for further security. Handles 36, 38 are provided to facilitate carrying the luggage article 20. In addition, the hard-sided luggage article 20 preferably includes two wheels 40, 42 and a conventional integral handle means 50 to allow the luggage article 20 to be wheeled along the ground. These mechanisms are well known in the art.

One aspect of the invention involves the placement of the parting line 60 of the luggage article 20. By "parting line" it is meant the area where the base 24 and lid 26 meet when closed. It is noted that the parting line 60 is generally positioned on the front sidewall 62, left sidewall 64 and right sidewall 66 of the luggage article 20. As can be seen best in Figures 2 and 3, the parting line 60 curves upwardly along the left sidewall 64 and right sidewall 66 and is then disposed generally in the same plane as is the lid 24. Referring to Figure 5, it is appreciated that the parting line 60



- 5 -

is not generally disposed in the bottom sidewall 68. This will create a novel bottom pan 70 (see Figure 8). In this way, there is no parting line on the bottom sidewall 68, which is the sidewall on which the luggage article 20 typically will rest. This is advantageous because in prior art clam-shell designs, the parting line typically is disposed on the bottom sidewall, and because of this, if the luggage article 20 was sat in a puddle or a wet spot, the water in the puddle or wet spot could infiltrate the parting line and make the clothes or other contents of the prior art luggage articles wet. In the novel design of the luggage article 20, the parting line 60 is not disposed on the bottom sidewall 68, thus minimizing the possibility of wet contents if the luggage article 20 is placed in a puddle or the like.

Referring to Figure 9, another aspect of the invention will be discussed. Due to the blow molding process, the lid 24 can be made with a double wall, consisting of an outside wall 80 and an inside wall 82. This design will impart strength to the lid 24 by providing intermittent "kiss-points" 83, 84, 85, 86 and 87. These kiss-points contact the inner surface 80a of the outer wall 80. The double wall configuration also allows a liner or other hardware (not shown) to be attached to the inside wall 82 without the fasteners or rivets protruding from the outside wall 80. In addition, the lid 24 perimeter is formed with a groove 88 in order to mate with the Z-beam and co-extrusion on the base 24, which will be discussed below.

Referring now to Figure 10, several important aspects of the invention will be discussed. The base 24 is formed also by a blow molding process and because of this, a unique Z-beam 100 is formed integral to the base. The Z-beam 100 consists of a portion of the sidewall 101 and includes a horizontal portion 102 and a vertical

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portion 104 extending generally perpendicularly from the horizontal portion 102. The sidewall 101 and horizontal portion 102 form an undercut area 106 which advantageously can ease packing requirements. This is because the contents of the storage compartment 22, such as clothes, can be reasonably tucked under the horizontal portion 102, thus the clothes will not rise above the top line of the base 24, thus making closing of the lid 26 easier. The Z-beam 100 also imparts outstanding lateral rigidity to the base 24 without the need to resort to additional componentry to realize a mechanical advantage.

Figure 10 also shows the co-extrusion clip 120 of the invention. The clip 120 consists of an n-shaped clip portion 122 and a soft horizontal portion 124. The clip 120 is designed to be secured to the vertical portion 104 of the base all around the perimeter thereof, as can be seen in Figure 8. If desired, a break 130 in the clip 120 can be made in order to facilitate placement of the clip 120 onto the vertical portion 104. Preferably, the clip portion 122 is made of a hard plastic material, which nonetheless is constructed and arranged to clip securely onto the vertical portion 104. The soft horizontal portion 124 is made of a softer plastic portion. In addition, the soft horizontal portion 124 can be made of a different color than the base 24 and the lid 26, so that when the luggage article 20 is closed, a color break is created between the lid 26 and the base 24. It will also be appreciated that the lid 26 and base 24 can also be different colors themselves. The key thing to note is that the color of the soft horizontal portion 24 creates a color break no matter what the color or colors of the base 24 and lid 26. The soft portion 124 also is capable of more readily conforming to the bends of the luggage article opening.

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Although the clip 120 is shown preferably as a co-extrusion, it will be appreciated that the invention is not limited thereto, and that the clip can be a single extrusion or a part molded by any other type of process.

5           It will be appreciated that an improved hard-sided luggage article has been disclosed.

While specific embodiments of the invention have been disclosed, it will be appreciated by those skilled in the art that various modifications and alterations to  
10 those details could be developed in light of the overall teachings of the disclosure. Accordingly, the particular arrangements disclosed are meant to be illustrative only and not limiting as to the scope of the invention which is to be given the full breadth of the appended claims and  
15 any and all equivalents thereof.

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**WHAT IS CLAIMED IS:**

1. A method of making a hard-sided luggage article, said method comprising using a blow molding process to produce a base and a lid for said luggage article.
- 5           2. The method of Claim 1, including said lid having a double wall construction including an outer wall and an inner wall.
3. The method of Claim 2, including forming said inner wall with intermittent  
10 portions which contact an inner surface of said outer wall in order to impart torsional and compressive strength to said lid.
4. The method of Claim 3, including said base is formed with a Z-beam to  
15 receive said lid thereon;  
          said inner wall includes a groove section which mates with said Z-beam when said lid is received on said base; and  
          an extrusion attached to a section of said  
20 Z-beam.
5. The method of Claim 4, including said extrusion is a co-extrusion having a first portion which clips on to said section of said Z-beam and a second portion which extends laterally  
25 outwardly from said first portion.
6. The method of Claim 5, including said first portion is made from a first material and said second portion is made from a second material, said first material being harder than said  
30 second material.

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7. The method of Claim 6, including  
said base and lid have a first color and  
said second material has a second color, whereby said  
second portion creates a color break between said base and  
5 said lid.
8. A hard-sided luggage article comprising:  
a base;  
a lid secured to said base; and  
said base including an opening defined by  
10 a Z-beam.
9. The method of Claim 8, including  
an extrusion attached to a section of said  
Z-beam.
10. The method of Claim 9, including  
15 said extrusion is a co-extrusion having a  
first portion which clips on to said section of said  
Z-beam and a second portion which extends laterally  
outwardly from said first portion.
11. The method of Claim 10, including  
20 said first portion is made from a first  
material and said second portion is made from a second  
material, said first material being harder than said  
second material.
12. The method of Claim 11, including  
25 said base and lid have a first color and  
said second material has a second color, whereby said  
second portion creates a color break between said base and  
said lid.
13. The method of Claim 8, including  
30 said lid has a double wall construction  
including an outer wall and an inner wall.

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14. The method of Claim 13, including  
said inner wall has intermittent portions  
which contact an inner surface of said outer wall in order  
to impart torsional and compressive strength to said lid.

5 15. The method of Claim 14, including  
said inner wall includes a groove section  
which mates with said Z-beam when said lid is closed on  
to said base.

10 16. A hard-sided luggage article including a  
trap-door lid.

17. The method of Claim 16, including  
said luggage article including a base, said  
trap-door lid being hingedly connected to said base.

15 18. The method of Claim 17, including  
said lid and said base are separated by a  
parting line.

19. The method of Claim 18, including  
said base includes a bottom portion and a  
sidewall portion; and  
20 said parting line having a portion that is  
not disposed on said sidewall portion.

20. The method of Claim 19, including  
said portion of said parting line not  
disposed on said sidewall portion is where said lid is  
25 hingedly connected to said base.

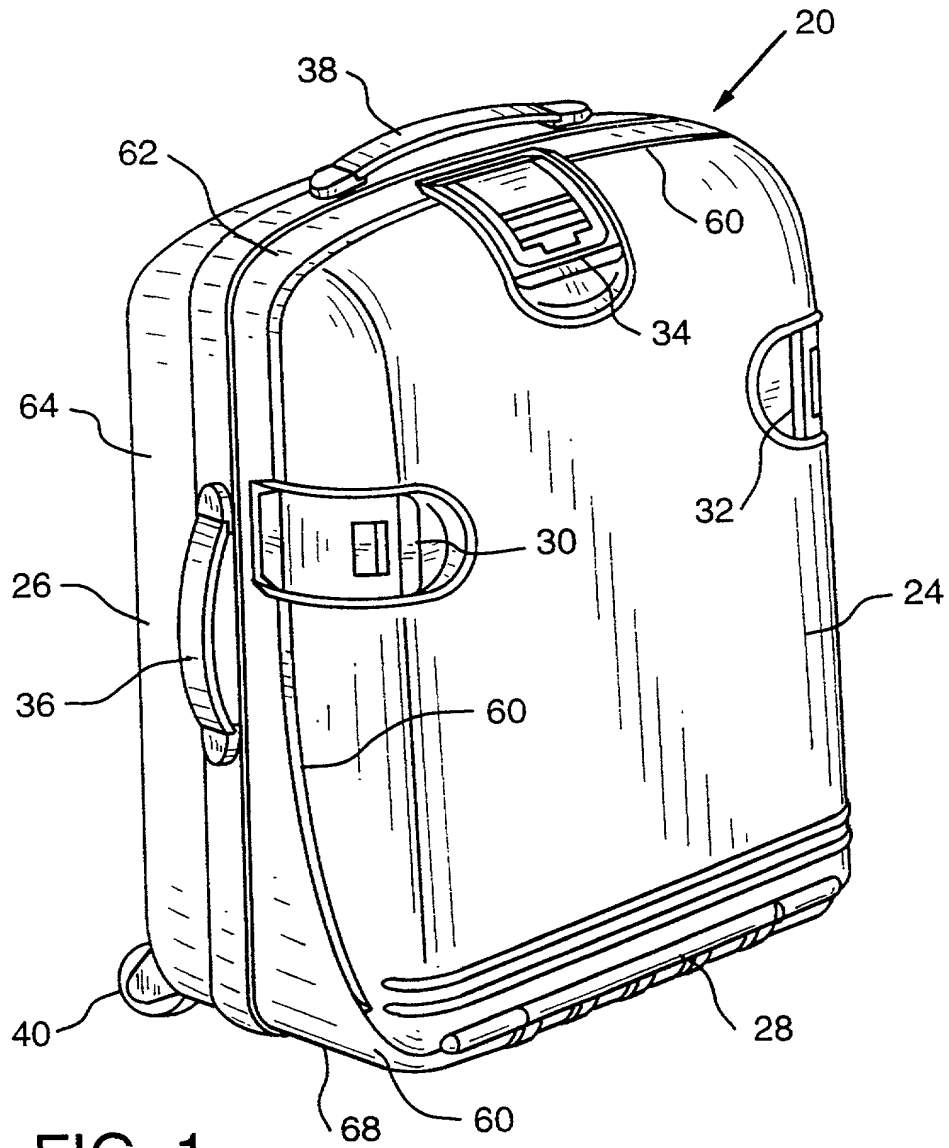


FIG. 1

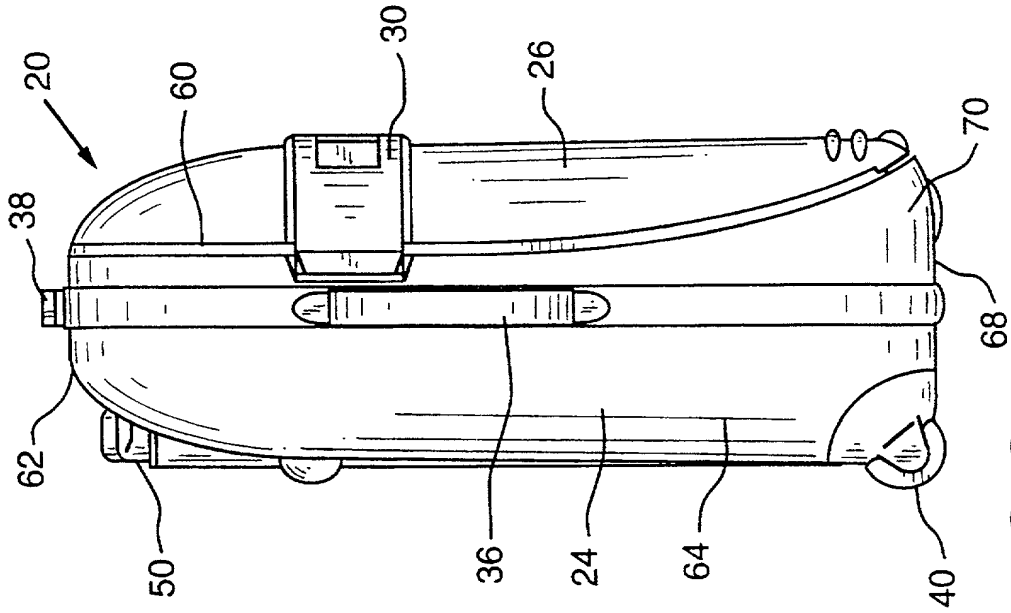


FIG. 3

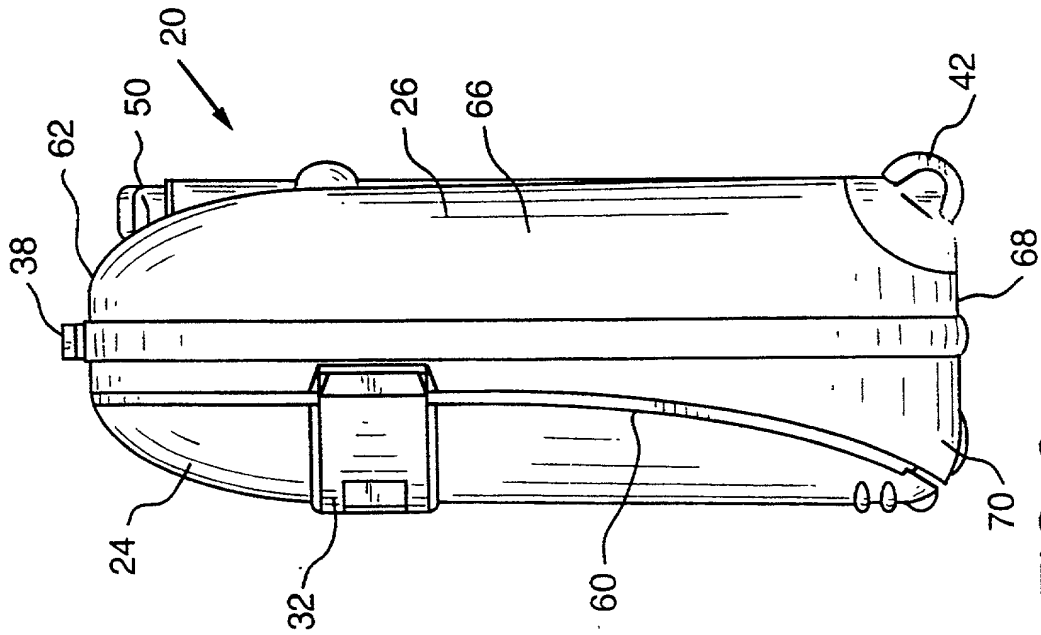


FIG. 2



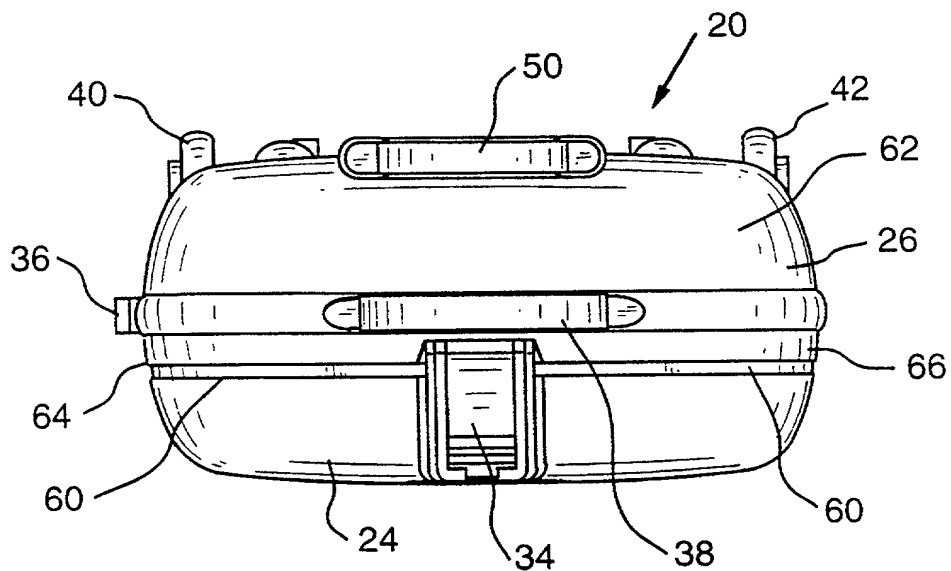


FIG. 4

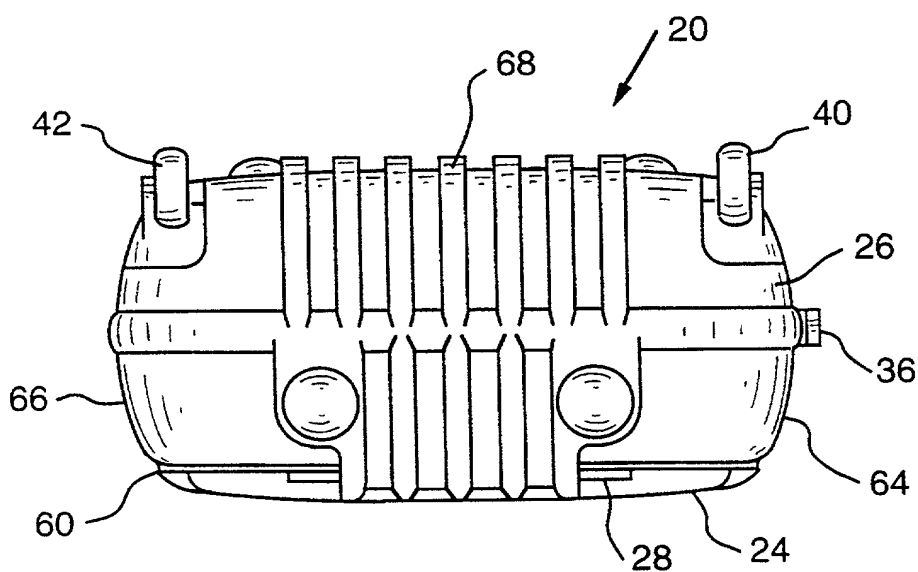


FIG. 5

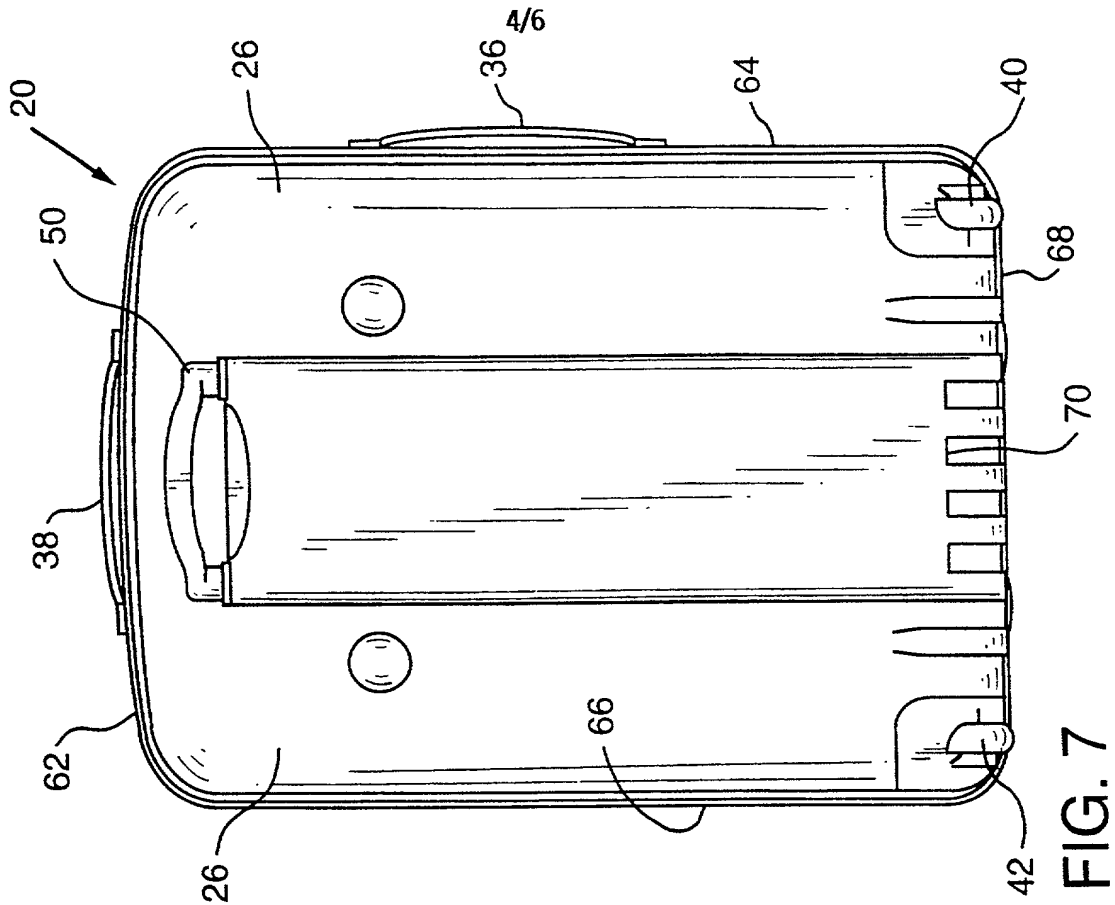


FIG. 7

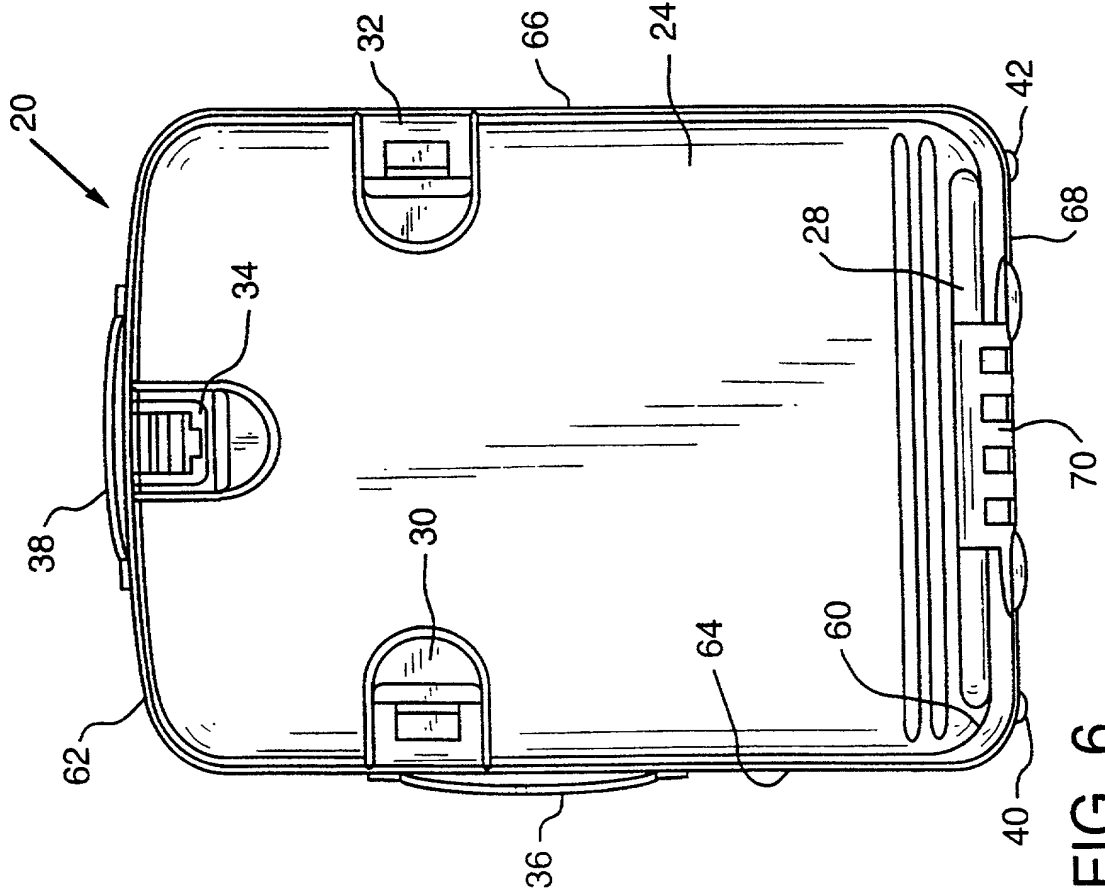


FIG. 6



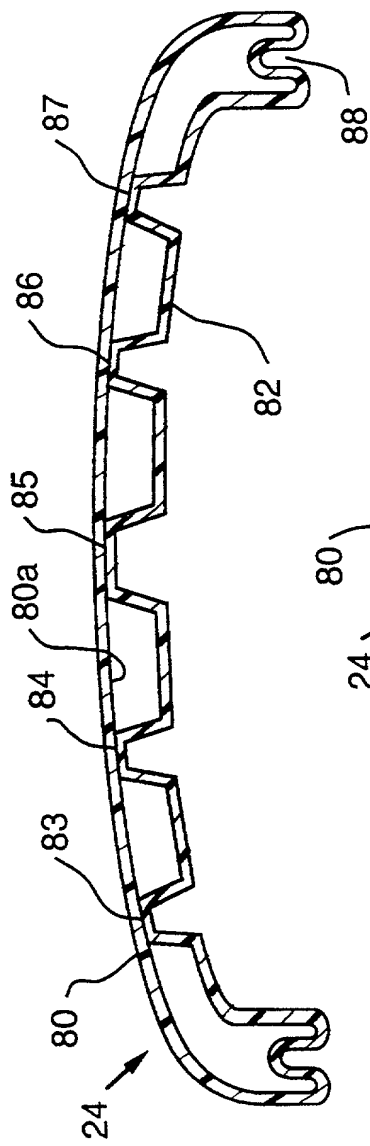


FIG. 9

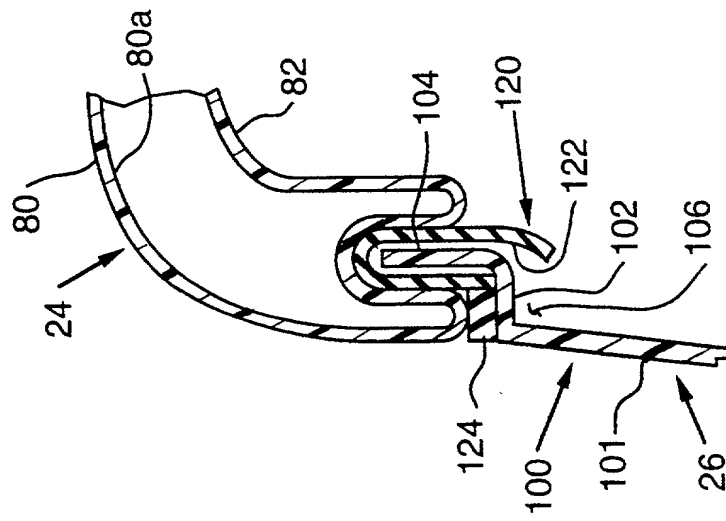


FIG. 10

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<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</b> <b>(37 CFR 1.63)</b>  <input type="checkbox"/> Declaration Submitted with Initial Filing      OR <input checked="" type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)	<b>Attorney Docket Number</b>	010310-00272-4
	<b>First Named Inventor</b>	Paolo M.B. Tiramani
	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	09/623,283
	<b>Filing Date</b>	August 31, 2000
	<b>Group Art Unit</b>	
	<b>Examiner Name</b>	

**As a below named inventor, I hereby declare that:**

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**IMPROVEMENTS IN HARD-SIDED LUGGAGE**

the specification of which (Title of the Invention)

☐ is attached hereto  
OR  
☒ was filed on (MM/DD/YYYY) 08/31/2000 as United States Application Number or PCT International Application Number 09/623,283 and was amended on (MM/DD/YYYY)                      (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.
60/076,705	03/04/1998	

[Page 1 of 2]

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## DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
PCT/US99/04752	03/03/1999	

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☒ Customer Number 003705 → 

Place Customer Number Bar Code Label here

☐ OR Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number 

OR

☒ Correspondence address below

Name	David V. Radack				
Address	Eckert Seamans Cherin & Mellott, LLC				
Address	600 Grant Street, 44th Floor				
City	Pittsburgh	State	PA	ZIP	15219
Country	US	Telephone	(412) 566-6777	Fax	(412) 566-6099

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor					
Given Name (first and middle if any)		Family Name or Surname					
Paolo M.B.		Tiramani					
Inventor's Signature	<div>11/22/00</div> Date						
Residence: City	Greenwich	State	CT	Country	USA	Citizenship	UK
Post Office Address	28 Dairy Road					CT	
Post Office Address							
City	Greenwich	State	CT	ZIP	06830	Country	USA

☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

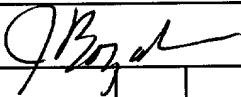
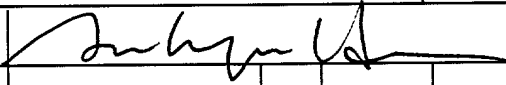
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## DECLARATION

## ADDITIONAL INVENTOR(S) Supplemental Sheet

Page 1 of 1

<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any])		Family Name or Surname	
John A.		Bozak	
Inventor's Signature			Date 11/10/00
Residence: City	Greenwich	State	CT
		Country	USA
Post Office Address	159 East Elm Street CT		
Post Office Address			
City	Greenwich	State	CT
		ZIP	06830
		Country	USA
<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any])		Family Name or Surname	
Soohyun		Ham	
Inventor's Signature			Date 11/27/00
Residence: City	Santa Cruz	State	CA
		Country	USA
Post Office Address	121A Towne Terrace CA		
Post Office Address			
City	Santa Cruz	State	CA
		ZIP	95060
		Country	USA
<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any])		Family Name or Surname	
Inventor's Signature			Date
Residence: City		State	
		Country	
Post Office Address			
Post Office Address			
City		State	
		ZIP	
		Country	

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